

*Body* olivaceous; head fulvous; antennæ black, tipped with fulvous.

Underside—central band extending to the costa, but interrupted near it by the nervures, which are fulvous, otherwise as above; base silvery, crossed by two pinkish bands margined with brick-red, the outer one lying close to the central band, except at the costa of the front wings; base of hind and cell of front wings crossed by an oblique brick-red dash: front wings with a subapical patch, creamy above, white and very narrow below, interrupted by the nervures; apex fulvous; the remainder of the apical half of the front wings pale brown, interrupted by the nervures, and varied with white lunules between the subcostal and second and third median nervures: apical half of hind wings violaceous outwardly, pale brown inwardly, the brown portion crossed longitudinally by a brick-red fascia; a lunulate, submarginal, fulvous line along the hind margin, an orange spot at the anal angle, and a small black lunule near it.

*Body* dirty cream-coloured.

*Expanse of wings* 2 inches.

*Hab.* Honduras.

Closely allied to *Heterochroa Iphicla*, Linn., differing from it *above* in having the central band produced above the first median nervule, the subapical orange patch much more angular, and the submarginal bands more interrupted; *below*, the basal bands are wider apart, the white submarginal lunules are fewer in number, the submarginal bands less curved, more regular, and not so much interrupted, the anal orange patch on the hind wing is much nearer to the margin, and the central band much more regular in outline.

XLIV.—*Remarks on Prof. H. J. Clark's Peridinium cypripedium.*

By H. J. CARTER, F.R.S. &c.

IN the last two Numbers of the 'Annals' (viz. 94 and 95) are contained the description and illustrations of an animalcule called by Professor Clark *Peridinium cypripedium*; and no microscopical inquirer into such organisms can have read it, in connexion with his figures, without admiration and hope of future contributions of the kind from the same author.

Prof. Clark, however, not unlike those who have preceded him in such investigations, has confounded two kinds of infusoria, which, although extremely alike, nevertheless belong, one to the animal, and the other to the vegetable side of the imaginary line which divides the two great kingdoms of organized beings. Nor would this confusion have been made had the authors of

that most excellent work to which Prof. Clark alludes, viz. 'Les Études sur les Infusoires, &c.,' Messrs. Claparède and Lachmann, been able to contribute as much to the description of their second family of Vorticellina as they wished.

This has now been added by Prof. Clark himself so completely that henceforth no such confusion can exist. But while Prof. Clark's mistake serves to show how very like *Urocentrum Turbo*, Ehr. (which I believe to be Prof. Clark's *Peridinium cypripedium*) is to *Peridinium*, it also affords me the opportunity of pointing out more strongly than has hitherto been done, the striking resemblance between these two Infusoria, situated on different sides of the line mentioned, which, from a late examination of the former, appears to be desirable.

Prof. Clark's *Peridinium cypripedium*, if not identical with Ehrenberg's *Urocentrum Turbo*, seems to differ from it so slightly that it can hardly be termed another species.

Of *Urocentrum Turbo* Claparède states (*op. cit.* p. 134), among other characters, that the mouth or buccal cavity is spiral, and, on behalf of his lamented coadjutor, the late M. J. Lachmann, that the anal orifice is posterior; while Ehrenberg asserts, on the contrary, that the mouth is "not spiral" (*Micrograph. Dict.*). Claparède also adds that the setaceous or large ciliary appendage is composed of "long cilia agglomerated into a bundle."

*Urocentrum Turbo* has been placed by Ehrenberg among his Vorticellæ; but if the mouth be *not* spiral, as he has stated, and the anal orifice be posterior, as observed by Lachmann—while Prof. Clark, in his minute examination, although unable to determine the position of the latter, mentions nothing spiral about the mouth or buccal cavity, and my own observations are of a like nature—then such testimony is opposed to placing this organism in the position assigned to it by Ehrenberg.

On this account, probably, the intelligent authors of 'Les Études' have made a separate family for it, under the head of "Urocentrina," which they have placed between their Vorticellina and Oxytrichina, probably also seeing, among other things, that the setaceous or large ciliary appendage, by its brush-like form, allied it more strongly to the Oxytrichina (characterized by large ciliary feet) than to any other family of Infusoria.

While, then, *Urocentrum* differs so much from the ciliated animalcules, on the animal side, as to afford the type of a separate family, it so nearly resembles *Peridinium*, on the vegetable side, that Prof. Clark has set it down as one of the latter—an oversight which needs explanation, lest the organization of *Urocentrum Turbo* should be applied to that of the Péridiniens.

By reference to the 'Annals' (1859, vol. iii. p. 15) it will be observed that I have endeavoured to clear up the confusion which

Ehrenberg and Dujardin made by mixing up the *Trachelius trichophorus* of the former, which is the *Astasia limpida* of the latter, with the *Euglenæ*; and have proposed that under the latter should only be included Infusoria of the type *Euglena*, and under that of *Astasia* the type only of *Astasia limpida*,—*Euglena* belonging to the vegetable, while *Astasia* belongs to the animal side of the boundary of the two kingdoms; *Astasia* being colourless, presenting an oral and an anal orifice, and taking in crude material for food, while *Euglena* is for the most part green, presents no oral or anal orifice, and cannot be seen to incept crude material. There are other distinctions between these organisms; but generally they are so much alike that Dujardin placed the whole under the head of *Euglenæ*; so that if the organization of *Astasia limpida* were attributed to *Euglena*, the same erroneous view respecting the organization of the latter would arise as that which would be caused by attributing the organization of *Urocentrum* to *Peridinium*. Claparède has also some observations (p. 346) bearing on the subject; but they were written unknown to me, if not probably published subsequently to mine. For my own, *in extenso*, I must refer the reader to the volume of the 'Annals' already mentioned.

Now, *Urocentrum Turbo* bears a similar resemblance to *Peridinium* that *Astasia limpida* (Duj.) bears to the *Euglenæ*. Hence the object of this communication.

As yet, *Peridinium* must be viewed as *closely* allied to *Euglena* (see my description of *Peridinium sanguineum*, which imparts a red colour to the sea round the shores of the island of Bombay, 'Annals,' 1858, vol. i. p. 258). It has a large cilium, which does not appear to be composed of a lash of hairs; a reddish eye-spot, which may be double or quadruple, according with the number of divisions which the organism may be undergoing within its lorica, but always connected with a hyaline space, which in *Euglena* is seen to be the contracting vesicle; a nucleus, and vesicles of green or otherwise coloured chlorophyll (see the communication to which I have last referred); but no oral or anal orifice, and no appearance of being supported by the inception of crude material for food.

On the other hand, *Urocentrum Turbo* is colourless, has an oral and probably anal orifice; incepts crude material for food, as pointed out by Prof. Clark; presents a circular and a median groove, but with the crown of minute cilia not situated along the line of the former, as in the cinctum of *Peridinium*, but in front of it, and the large cilium, although issuing from the median groove, composed of a bundle of hairs, instead of a single filament. Yet this organ serves to anchor *Urocentrum*, just as the simple filament can arrest the progress of *Peridinium*, while the

latter swims with its small, and the former, *Vorticella*-like, with its large end foremost.

There is no lorica in *Urocentrum*; and, according to Prof. Clark, its surface, excepting the crown, is scattered over with small cilia, in which it further differs from *Peridinium*—where, on the other hand, there is a distinct lorica, and cilia *only* on the anterior border of the cinctum.

These are some of the chief differences between the two organisms, of which the most distinguishing are first named.

It is not my object here to go further into the detail of *Urocentrum Turbo*, nor am I prepared to enter the lists with Prof. Clark respecting its organization.

My observations were for the most part made cursorily, on a supply of this animalcule which I found here in a freshwater pool partly filled with decayed leaves, in July last; but, seeing that the vesicula (contracting vesicle) was particularly active, I availed myself of the opportunity of watching it carefully with reference to the question whether it threw back into the body or discharged externally its contents, and noted down—(1) that from a simple globular form it became surrounded with a chaplet of ten (?) small globular sinuses; (2) on these disappearing, the vesicula became still more enlarged, contracted, and in its turn disappeared; and (3) that immediately after this, one or two vesicles became visible, which, breaking into each other, gave place to the globular form of the vesicula again, to be followed by the same series of changes, and so on,—still further convincing me that the contents of the vesicula do not return to the body through the sinuses, but are probably ejected from it through the cuticula direct, or through some excretory channel—in this instance close to the posterior extremity, where the vesicula and probably the anal orifice also, are situated.

*Urocentrum* was also formerly confounded with *Cercaria* by Nitzsch and Bory; but the improved quality of our modern microscopical instruments no longer admits of such a mistake.

Budleigh Salterton, Devon.  
Nov. 7, 1865.

---

XLV.—*Descriptions of new Genera and Species of Gallerucidæ.*  
By J. S. BALY, F.L.S.

Subfam. HALTICINÆ.

Genus DIAMPHIDIA, Gerst.

*Diamphidia vittatipennis.*

*D. oblongo-ovata*, convexa, sordide fulva, subopaca, antennis, plaga frontali, oculis, thoracis maculis septem (4 . 3 dispositis), scutello,